

do with a volume, but conveys no information concerning the physical constitution of the quantities in question.

The whole of the work dealt with belongs to the second term of the physics course in the University of Rome. The author compiled it while yet Prof. Blaserna's assistant. His untimely death after succeeding to the chair prevented him from publishing it himself, but that duty has been admirably carried through by his two able disciples.

Azimuth. By G. L. Hosmer. Pp. v+73. (New York: John Wiley and Sons; London: Chapman and Hall, Ltd., 1909.) Price 4s. 6d. net.

THIS work is avowedly not a text-book; it is a hand-book for the practical surveyor, and, as such, should prove very useful. Prof. Hosmer gives just the ordinary methods for checking the angles of a survey by observation of the sun and stars, but the book is removed from the commonplace by the conciseness of its instructions and the numerous practical hints given at all the necessary points. The tables for computing the results are given in the latter part of the book, and the examples are worked out on specimen forms calculated to obviate clerical errors.

The book is nicely printed, illustrated with useful diagrams, and well bound. These features, combined with its handy size, make it a very useful work for the practical surveyor to carry with him as a pocket-book for easy reference.

W. E. R.

LETTERS TO THE EDITOR.

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of NATURE. No notice is taken of anonymous communications.]

Notes on a Stone Circle in County Cork.

IN view of several references made in NATURE lately to stone circles in Ireland (vol. lxxix., p. 488, February 25), the following notes on one situated at Drumbeg, near Glandore, County Cork, may prove of interest, especially as this circle contains the characteristic "recumbent stone" of the "Aberdeenshire" type in the south-western half of its circumference, a feature not hitherto met with outside that locality.



Drumbeg Circle. Recumbent stone and supporters, viewed from centre of circle, showing notch in hills (solstitial sunset line).

The accompanying photograph shows this stone and its supporters, of which the following dimensions may be given:—recumbent stone, 7 feet long, 1 foot 8 inches deep,

2 feet 6 inches high; right supporter, 4 feet 8 inches high, 1 foot 9 inches deep, 3 feet wide; left supporter, 5 feet high, 1 foot 6 inches deep, 3 feet wide.

The circle stands on a hill-side facing the sea, upon an artificial plateau with a well-defined edge, 160 feet long, on the southern (seaward) side. This edge, otherwise straight, is indented by a "cove" 20 feet in length, directed towards the centre of the circle, which it almost touches externally on its southern side.

A row of four small ovals, and mounds of stones (probably burial-sites), lie in a line a short way outside the plateau to the south-eastward. The remains of (?) a hut-circle of rough stones occur at a distance of 170 feet westward from the main circle, and there is a large solitary outlying boulder situated on a small eminence 100 feet to the north-eastward.

The following astronomical features (sight-lines) are observable in the above remains:—

(1) From the recumbent stone; solstitial summer sunrise over one of the two most important stones of the circle; sky-line elevated $3^{\circ} 40'$. (This line passes almost over the outlying boulder.)

(2) From the same position, May sunrise over the second of the two important stones; hill-line elevated $2^{\circ} 20'$.

(3) From same position (or from centre of circle, see photograph), solstitial winter sunset over a conspicuous gap in the hills, distant one mile.

(4) Edge of the plateau lies in the line of May sunrise or November sunset.

(5) Side of the cove is directed to the solstitial summer sunset over centre of circle, nearly.

(6) Line of stone ovals, outside plateau, is practically that of May-sunrise.

(7) From centre of (?) hut-circle, over the northernmost stone of circle (a slab with a rounded profile, thus differing from the remainder, which are of "pillar" form), to the outlying boulder, is the May-sunrise line.

There are no indications of a burial-mound in the centre of the circle.

BOYLE T. SOMERVILLE.

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Musical Sands in Chile.

THE interesting letter of Mr. Carus-Wilson, dealing with the existence of musical sands, suggests to me that some fact in my experience relating to this subject may be worth putting on record, and may, through the courtesy of your columns, possibly lead to the elucidation of an occurrence which has hitherto lacked explanation, at least in my mind.

Some few miles to the west of the town of Copiapo, in Chile, and, so far as my recollection of the locality carries me, about half a mile to the southward of the railway line, there is a tailing off of a ragged hill-range, which runs about north and south. In a ravine—it is too small to be called a valley—the sand which covers the greater part of that portion of Chile has, blown doubtless by the sea-breeze, been carried up the gully to which I refer, and lies there at a slope equal to the flowing angle of dry sand. The place is locally known by the name of "El Punto del Diabolo," as, given conditions of wind and weather, which time did not allow me to study, a low moaning sound, varying in intensity, can be heard for quite a quarter of a mile away. Amongst the superstitious natives the place is avoided. Thinking it worth a visit, I went there with the late Mr. Edwards, who was then the British Consul in that district. On our arrival we found that the sands were quite silent, but on making a glissade down the slope a gradually increasing "rumble" was heard, which increased in volume as the sand slid away before us.

As the sound increased we were subjected to an undulatory movement, so decided that it was difficult

to keep one's balance, and as we both had heard that this sand had swept over an old silver mine, there was a clear impression on the minds of both that the vibration might break in the roof of the old workings. I write of this experience for what it is worth. I do not know whether the ground under the sand was hollow or solid, and although I have ventured to theorise on the subject, as yet I have found no satisfactory solution of this, to me, quite unique experience.

M. H. GRAY.

Lessness Park, Abbey Wood, Kent.

The Æther of Space.

As one who has read with the greatest appreciation the work recently written by Sir Oliver Lodge on this subject, I take it that the following statements represent fairly well the condition of scientific opinion at the present time:—

(1) The fundamental units of which matter is composed are probably individualised regions of the universal æther, neither condensations nor rarefactions, but distinguished by some kinetic structure from the unmodified æther surrounding them.

(2) The æther, as a whole, is stationary, there being nothing of the nature of æther currents, but it possesses an exceedingly fine-grained circulation in closed curves, its elasticity being of kinetic origin.

(3) So far as the motion of a mass of matter is concerned, there is no ætherial viscosity, and, consequently, the earth carries no æther with it in its motion. We therefore live in an æther stream due solely to the earth's motion in space, and having the full value due to its velocity, the failure of Prof. Michelson's delicate experiment being due to a lessened cohesion (of electromagnetic origin) in any length of matter carried at right angles to the æther stream.

The question arises as to whether the æther which forms any mass of moving matter remains the same. Assuming the above statements, there appear to be two alternatives. Either the æther, distinguished by special structure, which composes the ultimate units of which matter is built up, has a bodily transfer through space, or the æther in the line of approach must be rapidly caught up in the advancing vortices (or whatever the structure may be), fused into their being, and as rapidly liberated along the line of recession.

If the former supposition be correct, there must be a region of slip in the æther surrounding the ultimate units (electrons); if the latter, we have the very interesting conception of matter being incessantly made and unmade as regards its fundamental units with a speed proportional to the velocity of motion. All the physical properties of a given mass of matter would remain constant, while the æther, the substratum of its existence, was changing.

If this reasoning be not in error, I shall be glad if Sir Oliver Lodge or any other physicist will indicate which of these views obtains acceptance.

CHARLES W. RAFFETY.

Wynnstay, Woodcote Valley Road, Purley, Surrey,
July 15.

Botanical Surveys.

REFERRING to the review, in NATURE of July 15, of Mr. F. Morey's "Guide to the Natural History of the Isle of Wight," in which it is suggested that the Isle of Wight affords wide scope for a botanical survey on the lines followed by Dr. W. G. Smith and his school of plant-ecologists, it may be of interest to the reviewer and others to state that already the primary survey of the district has been completed and maps made by the writer, in association with the Central Committee for the Study of British Vegetation.

As suggested by "F. C.," a bare species list, even if complete, can do but scant justice to the variety of the vegetation of the Isle. Though in some types it is second in interest to the opposite mainland of South Hampshire, as, for example, in the calcareous grasslands and dry and wet heathlands, yet the almost full development of maritime associations and the diversity of the woodland formations do much to restore the balance.

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The island has been under a long-continued civilisation, yet there still remain, almost untouched by man, several station-associations which, according to the plan of Prof. Conwentz, would be among the first to be scheduled as "natural monuments." In this last respect the island is but typical of much of Britain, and the regret expressed by your reviewer that the makers of county floras are not animated even by the spirit of Baker's "North Yorkshire" is shared by all who know the standing of British plant-ecology. To such it is sad that the period which saw the publication of Wheldon and Wilson's "West Lancashire" saw also the publication of the arid lists of many of the Victoria county histories, as of Lancashire itself.

W. MUNN RANKIN.

Storey Institute, Lancaster, July 19.

The *Acarus Crossii*.

SOME months ago (NATURE, February 4) a correspondent directed attention to the account of Crosse's remarkable experiences when experimenting with electric currents, and the appearance of quantities of an *acarus* in the solutions treated, as fully narrated in Chambers's "Vestiges of the Footsteps of Creation," and the question was asked whether any explanation of such strange phenomena had ever been heard of. No reply seems to have been made, and, presumably, no recent attempts to investigate the mystery have taken place. It may be of interest to note that Chambers's account is fully corroborated in the "National Dictionary of Biography," and it appears that Crosse, though he did not make any suggestions as to "spontaneous generation," but merely related the facts and left explanations to others, found himself the victim of such a shower of abuse that he thenceforth entirely abandoned all research work and retired into obscurity. His experiments would probably have been forgotten but that they were repeated with complete success by another worker. Considering how much more easily prolonged electric action can nowadays be applied, would it not be well if someone would have the patience to repeat once more the exact conditions so amply described by Chambers, and so, if possible, clear up what is undoubtedly a very mysterious occurrence?

CHARLES E. BENHAM.

28 Wellesley Road, Colchester, July 7.

Barisål Guns in Australia.

IN NATURE of June 4, 1908 (vol. lxxviii., p. 101), under the title of "Barisål Guns in Western Australia," you published a note from me describing a peculiar, loud detonation heard by my companions and myself while on the Strelley River, in the north-west of Australia. In reading Captain Sturt's "Two Expeditions into the Interior of Southern Australia during the Years 1828, 1829, 1830, and 1831," I find that, when camped on the newly discovered Darling River, near what is now the town of Bourke, in New South Wales, in February, 1829, a very similar sound was heard by the explorers. Sturt's words are as follows:—"About 3 p.m. on the 7th Mr. Hume and I were occupied tracing the chart upon the ground. The day had been remarkably fine, not a cloud was there in the heavens, nor a breath of air to be felt. On a sudden we heard what seemed to be the report of a gun fired at the distance of between five and six miles. It was not the hollow sound of an earthly explosion, or the sharp cracking noise of falling timber, but in every way resembled a discharge of a heavy piece of ordnance. On this all were agreed, but no one was certain whence the sound proceeded. Both Mr. Hume and myself had been too attentive to our occupation to form a satisfactory opinion; but we both thought it came from the N.W. I sent one of the men immediately up a tree, but he could observe nothing unusual. The country around him appeared to be equally flat on all sides, and to be thickly wooded: whatever occasioned the report, it made a strong impression on all of us; and to this day, the singularity of such a sound, in such a situation, is a matter of mystery to me" (2nd edition, 1834, vol. i., p. 98).

J. BURTON CLELAND.

Bureau of Microbiology, Sydney, New South
Wales, June 19.